



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

UTILITY AND COST AS DETERMINANTS OF VALUE.

1. The general conclusions of the Austrian school in regard to the determination of value are stated in a paper by Professor von Boehm-Bawerk, on "The Ultimate Standard of Value," in the ANNALS for September, 1894. The essence of this paper would seem to be, that as a rule, utility (defined in the "Positive Theory of Capital," page 133,* as "capacity to subserve human weal"), finally determines the value of goods practically to the exclusion of all other determinants in all important cases. Cost, in particular, is proclaimed to officiate as a final determinant of value only in a comparatively limited number of unimportant cases.† Those who regard cost as a factor of equal, or nearly equal, importance with utility in the final determination of value are declared to be mistaken, no matter what their idea of cost is.

While I never could agree with this doctrine, I have long hesitated to publish my objections against the conclusions of economists of so conspicuous and recognized ability as the Austrians, and Boehm-Bawerk in particular. Withal I am not unmindful of the fact that I owe to them the very foundation of much that I have to say.

2. The conclusions of Boehm-Bawerk as to the determination of value, in his paper in the ANNALS, seem to be at variance with some of his other teachings. He explains repeatedly in his writings that value nearly always is finally determined by marginal utility; even in his paper in the ANNALS he bases his arguments in favor of utility and against cost almost altogether upon explanations of that kind. He further says (in the "Positive Theory of Capital") that marginal utility is determined by utility and

* The references are to Professor Smart's English translation.

† Pp. 7 and 60.

scarcity. Scarcity being nothing but a particular state of the supply (as compared with the demand), and supply being largely determined by cost, does it not follow from Boehm-Bawerk's own teachings, that after all cost nearly always is at least as final a determinant of value as utility?

But Boehm-Bawerk, where he speaks of "utility" as the final determinant of value, perhaps means marginal utility. For this, something might be said, *i. e.*, that the real arguments of Boehm-Bawerk toward establishing utility as the final determinant of value, do not go beyond those which tend to establish marginal utility as such final determinant. Still marginal utility has, even according to Boehm-Bawerk himself, absolutely nothing final about it. Can he speak of marginal utility in contrast to cost as the final determinant of value, when he declares, though indirectly, that marginal utility is determined by cost? The insignificance of the influence, furthermore, which Boehm-Bawerk ascribes to cost in the final determination of value, rather precludes the idea that by the utility which he declares to be, in contrast to cost, the sole final determinant of value in the large majority of cases, he means a utility which itself is determined by cost (*i. e.*, marginal utility).

3. No matter whether Boehm-Bawerk refers to utility, as he defines it, or to marginal utility, when he declares "utility" to be the sole final determinant of value in all important cases—his conclusion seems to be unsatisfactory either way. If he means utility, as he defines it,* he fails—since he has declared value to be determined by marginal utility, and this by utility and scarcity—to account for scarcity, jumping in his argument from a determination of value by marginal utility to one by utility with utter neglect of the element of scarcity—just as if scarcity were a fixed and given element, instead of being just as much a variable factor of marginal utility as utility. If he means marginal utility where he speaks of "utility" as the final determinant

* See p. 22, above.

of value, then his very statement that utility is the sole final determinant of value in all important cases, leads to the conclusion that in all of these cases cost is an even more final determinant. For Boehm-Bawerk himself shows that marginal utility is determined by utility and scarcity; and I have shown* that it follows therefrom that cost is a determinant of marginal utility.

It seems, therefore, that Boehm-Bawerk's statement in regard to cost is erroneous under all circumstances.

My conclusions in this matter are not affected, as some have thought, by the fact that Boehm-Bawerk, when he speaks of utility, invariably refers, not to something like Adam Smith's "value is use," but to individual utility of a concrete good or quantity of goods.

4. How far I agree with others who declare cost to be a determinant of value, will appear below. I here desire to call attention only to a peculiar mistake which many champions of cost make. They try to defeat utility as the almost sole final determinant of value by battling—and that, of course, in vain—against marginal utility as fully determining value, and by trying—also, of course, in vain—to show that cost, to a greater or lesser extent, determines value either together with or in contrast to marginal utility, instead of putting cost in opposition to utility, and showing that it, as well as utility, is one of the determinants of value, because it affects value, just as utility does, through marginal utility. Many of the champions of utility and opponents of cost, on the other hand, trying to establish their point by showing that marginal utility is practically the sole determinant of value, an issue between marginal utility and cost is strangely created and often prevails throughout the argument, yielding suddenly in the conclusion to the issue between utility and cost, and leaving the allegations as to the relation of these conceptions standing in the air. Neither party seems to recognize that marginal utility and cost,

* See p. 22, above.

properly conceived, stand in no opposition to each other whatever, and that the determination of value by marginal utility even implies a determination of value by cost. The result is much confusion and lack of mutual understanding.

The confusion is increased by the circumstance that many of the writers apparently regard a determination of value by cost as necessarily involving an equality of value and cost;* while it is very plain that value may be determined by cost without being equal to it and also without being determined by it alone. Cost is merely one factor of the variable which we call value.

5. *Marginal utility† always and everywhere fully determines value.*

Boehm-Bawerk cites the case of the ticket for which another one can be obtained by the small personal trouble of another application, as illustrating a determination of value by disutility.‡ But a few pages farther on he says himself that, after all, we have in this case a determination of value by marginal utility. And, indeed, want is satisfied as well by averting and saving trouble as by procuring pleasure. The power of the ticket to save the trouble of another application is its true marginal utility.

Another instance cited by Boehm-Bawerk of determination of value by disutility (the only case in which it occurs

* What has come to be called "equality" in this connection is really not equality at all, but rather a correspondence. Here and elsewhere quantitative comparisons between value, cost, utility, etc., must be understood to refer to degree of affection (positive and negative) of human well-being only, without reference to kind. At best, we have equality in a certain respect only.

† By marginal utility, I mean the utility of the last increment contemplated. It refers to the last want which is actually or hypothetically satisfied, and which would go unsatisfied without the possession and use of the increment in question. Why in any case we should have recourse in this matter to the "first unsatisfied want," I fail to see. In reference to things we possess we look at the last wants satisfied by them and not at those beyond; while in contemplating the value to us of things we do not possess, we look at the wants which they would satisfy if we should possess them, and not at the first want which they would leave unsatisfied. In no case is the value of the thing in question dependent upon the first want which that thing leaves or would leave unsatisfied. The matter-of-course-fact that we produce for unsatisfied want has no bearing on this question.

‡ Conrad's *Jahrbücher*, New Series, Vol. xiii, p. 42.

in full force, according to him*), is that of the product of leisure hours. Tools made in leisure hours, he says, are valued by the amount of disutility involved in the labor devoted to them. I regret I cannot agree with Boehm-Bawerk. If a man whittles an ax-handle in his leisure hours and discovers afterward that he has made a bad job of it, he does not value it much, though, perhaps, he spent much time on it; and if, on the other hand, he did a very nice job in a very short time, he values his work not the less because he did it in his leisure hours. Products of leisure hours, it seems to me, are valued just as other products. For similar reasons, I believe, all the other cases must be dismissed which might be or have been regarded as exceptions to the determination of value by marginal utility.

In some of the cases referred to there is really a peculiarity, but it seems to me that what has been taken for a peculiarity of determination by disutility, is really a peculiarity of measurement by a foreign negative value. The case of the ticket above cited is a good example of this class of cases. It is not a disutility of the ticket in the sense of cost, nor any other cost-disutility, but simply the negative value and marginal utility of another application—something altogether foreign to the ticket itself—which serves, not as the determinant, but merely as the measure of the value and marginal utility of the ticket; and this happens simply because this foreign negative value and marginal utility, while indicating, negatively, with accuracy, the amount of the value and marginal utility of the ticket, present themselves more vividly to the mind and are more readily grasped by it than the value and marginal utility of the ticket itself. There is a peculiar measurement, but hardly a peculiar determination, of value in these cases. Surely there is as full and complete a determination of value by the marginal utility of the object in question in these cases as in any other case.

* ANNALS, Vol. v, p. 200, September, 1894.

My view of this matter is further confirmed by the fact that we have an exact correlative to the phenomenon just discussed in the occasional measurement of negative value by a foreign positive value. The negative value of a flood which cannot be prevented is, for instance, often measured by the value of the goods destroyed; and a similar measurement is the rule wherever a good object is defeated or a service prevented by the thing in question; provided, of course, the defeat of that object or prevention of that service constitute the marginal utility of the thing in question.

In all these cases we have simply a measurement of one value and marginal utility by another value, and marginal utility conceived in the negative. At the utmost we can aver a determination of the value of an object by the negative of the marginal utility of another object. At any rate, the phenomenon works both ways, from the negative side to the positive as well as from the positive to the negative, and cost of the object in question is not involved, except indirectly.

6. By what is marginal utility determined? The Austrians tell us "by the relation of wants and their provision," "by utility and scarcity," "by human well-being." Scarcity, they say, determines how far the marginal utility actually does rise in the concrete case, while utility fixes the limit to which it may rise. The information received from the Austrians on this point seems rather meagre. It leaves us somewhat in the dark as to the influence which cost exerts through marginal utility upon value. It leads us, indeed, indirectly to the conclusion that cost is as final a determinant of value as utility is, but this is apparently contradicted by the final conclusion of the Austrian school.

7. The truth in the matter, it seems to me, is this: Marginal utility is always a resultant of utility and of the condition of the supply, present and prospective. All supply is nothing but the available output of the forces at work for its production. The total product of these forces falls short of

the demand; though in some directions, principally where not controlled by man, they produce a supply much larger than that needed by man. In some instances, *i. e.*, in cases of actual over-supply, a burdensome excess of the supply even creates a want, *i. e.*, for protection and removal. As far, therefore, as man controls the forces of production, including those he exerts himself, he aims to economize them, and to regulate the production of his supply so as to obtain the greatest amount of satisfaction from them. Other things being equal, he would aim to supply the wants not satisfied by forces outside of his conscious control, in the order of their importance. But other things are not equal. There is a great difference in the difficulty of satisfying the different wants. Quite as much consideration is, therefore, given to this difficulty as to the urgency of the different wants. In consequence, therefore, many less urgent wants, whose satisfaction is easy, or incidental to that of urgent wants, are quite commonly and normally satisfied, while more important wants remain unsatisfied because of the great sacrifice which their satisfaction involves.

It is on account of the difficulties which nature and man-made conditions interpose between us and the satisfaction of our wants that this satisfaction does not everywhere extend to the point of satiation. Without this difficulty marginal utility everywhere would be equal to zero, and the conception of economic value would hardly ever have bothered man's mind.

8. We find (*a*) that the difficulty in the way of satisfying all our wants, or of acquiring (and in particular producing) the total amount of the things by which these wants might be satisfied, limits this satisfaction, and the supply on which this satisfaction depends. (*b*) That the satisfaction of each particular class of wants, and also that of each individual want, depends upon the comparative difficulty of their satisfaction; and that the amount of the supply serving to satisfy the different wants always depends upon the

comparative difficulty of procuring or acquiring the different supplies. In consequence, marginal utility and value are in absolutely every case determined as much by the difficulty of procuring or acquiring supply as by anything else.

The difficulty of procuring or acquiring supply which is effective in determining value in this way is not the difficulty of procuring or acquiring any amount of supply, and likewise not the actual difficulty, encountered in the past, of procuring the goods under consideration themselves,* but the difficulty of procuring or acquiring then and there, or within fairly discountable distances of time and place, and by the means within reach, at the margin of difficulty,† additional supply equal, in capacity to subserve human weal, to the things under consideration under the particular circumstances; or, in short, the marginal difficulty of substitution, or replacement.

The difficulty of anything is measured by the sacrifice necessary to overcome such difficulty. Sacrifices, in relation to the object for which they are made or would have to be made, are called cost. Marginal cost of substitution, or replacement, is therefore a determining element of value to the same extent as marginal difficulty of substitution, or replacement. Cost may consist of any sort of discomfort or of pain, of loss of goods or services, loss of the benefits to be derived therefrom, loss of time and opportunity to enjoy pleasures, or of any other sacrifices. These sacrifices may, like the utilities of things, be spiritual or moral as well as temporal; may be measured each in terms of the others, by the same process of mental balancing as that by which we measure pleasures, utilities and values; and may, also each and all, be measured in terms of pain, contemporary or other, or even in terms of value and pleasure. ‡

* See Sections 10 and 13, below.

† What is meant by the "margin" of difficulty hardly needs further explanation; likewise, it is hardly necessary to warn against its confusion with the "margin" of utility.

‡ Compare Section 5, above.

9. The marginal cost of substitution to which I have referred is a cost of acquisition, not of production or of reproduction. To him who produces his supply himself, and to society as a whole, the marginal cost of acquisition of supply is of course the same as the cost of production of it. The same holds true with the so-called "free goods," the cost of production of which is equal to zero. It is otherwise, in many respects, with the goods which man obtains by barter or exchange; and these, at least under present social conditions, constitute the bulk of the goods which claim our interest. Their cost is affected by division of labor, industrial organization and combination, and restriction by law and natural conditions. In particular these factors cause a great decrease in the general cost of production, as compared with what it would be if everybody produced for himself. But the full benefit of this decrease goes to the acquirer (buyer) as such, as a rule in the case of freely reproducible goods only. In their case, cost of substitution is usually about equal to that of production (including, in the wider sense, cost of exchange, delivery, etc., of additional supply) or of reproduction. In many cases, however, much more has or would have to be sacrificed for substitution, *i. e.*, acquisition of further supply, than what it costs, or would cost, to produce further supply at the margin. This is the rule where the supply is controlled by a monopoly. With other supplies again, in particular with irreproducible scarcity-goods and with depreciated goods, the reverse holds true:—the marginal cost of substitution is commonly lower than that of the production of additional supply, or of reproduction. Everywhere, even where cost of acquisition, of which that of substitution is only a particular kind, is in individual cases so very different from cost of production, the former is in the long run largely controlled by the latter; though to perceive this plainly we must consider the whole field of production and exchange within long periods of time. But, after all, it is only in so far as cost of production, or reproduction, is

equal to, or influences marginal cost of acquisition, and in particular marginal cost of substitution, that it is an element of value.

10. It must be observed, furthermore, that it is a contemporary cost of substitution, and not the actual cost in the past of the object under consideration, which determines value. The actual cost of acquisition of the particular goods which we may be considering is of moment for the determination of value only in so far as it is equal to or influences the contemporary cost of substitution. But this is very frequently the case, since economic conditions are more or less stationary, and since custom and habit have a certain weight in fixing values and prices. In the continuous process of events, furthermore, past and contemporary cost merge into each other, and even in individual cases there is often very little difference between the actual cost of the things under contemplation and the cost of additional equivalent supply. Thus, the impression of a complete dependence of value on actual cost of acquisition, and production,* is easily produced on an untrained or careless observer. Except in the case of scarcity-goods (where as a rule there is a marked difference between actual cost of acquisition and production in the past, and contemporary cost of acquisition and production of additional supply) it has often been held therefore that there is a more direct and fundamental dependence of value upon actual cost of acquisition and production in the past, than that seeming determination which I have just described, and which partakes rather of the nature of a concurrence than of that of a dependence. But one has only to observe how value is affected by a sudden great change of marginal cost of acquisition or production, resulting in a great difference between contemporary cost of substitution and actual cost, in the past, of the object considered, to be convinced that actual cost in the past is not a determinant of value in the strict sense.

* See Section 9, above.

In general it may finally be observed that, from the relation of marginal cost of substitution to marginal utility and value, the relation of any other kind of cost to marginal utility and value may easily be determined by a contemplation of the relation of such cost to marginal cost of substitution.

II. The character of the determining influence which marginal cost of substitution exerts upon marginal utility and value, and the result of this influence may be stated in the form of a law or rule as follows:

Marginal utility and value never rise above marginal cost of substitution; if lower than this cost, they generally tend to rise up to it; being limited, however, in following this tendency by the upper bounds of utility.* In a shorter form, giving the most important application of the rule only: *Value generally tends to equal marginal cost of additional supply, but not beyond the bounds of utility.*

This rule applies to the whole field of valuation. The reason of the rule is plain. On the one hand, the value and marginal utility of an object can never be higher than the cost of a substitute equally capable to subserve human weal. On the other hand, they can be lower than this cost only where the supply is so plentiful in comparison with the demand, that there is no use for any addition to it. But consumption and the decay incident to the lapse of time generally reduce the supply and tend to move marginal utility and value upwards to the upper limit of utility; exceptions, other than temporary, occurring only where the supply lastingly increases as much as or more than the demand.

*To obviate misunderstandings I wish to remark that by "value" in this paper I refer, in accordance with Boehm-Bawerk's definition on page 130 of his "Positive Theory of Capital," primarily to the importance for human welfare *possessed* by an object. Those who prefer to apply the term to the importance for human welfare *ascribed* to an object, will find little difficulty in recognizing how my conclusions would have to be modified in order to adapt them to that definition. Any object, for the purpose of this discussion, I regard as important for, and as subserving, human weal, according as it satisfies human wants and desires, regardless of their moral quality.

Now the upper limit of utility either (*a*) may attain or surpass the marginal cost of substitution—this is the rule with the utility of most of the goods with which we have to deal—or (*b*) it may not do so—as in the case of an original masterpiece of which no duplicate exists or can be made. In the former case (*a*) marginal utility and value will frequently be, or become, equal to marginal cost of substitution and will generally have a tendency to do so; in the latter case (*b*) marginal utility and value cannot equal marginal cost of substitution, but will tend to do it as far as the upper limit of a possibly falling utility permits.

The equalization of value with marginal cost, or the tendency toward it, is carried into effect by a rise or fall either of marginal utility and value, or of marginal cost, or of all of them—such rise or fall being the result either of changes in natural conditions, or of the acts of man. Man is guided, in his actions which affect marginal utility, largely by considerations of marginal cost, and *vice versa*, and, therefore, a mutual interdependence subsists between the two conceptions. We have not a simple dependency of marginal utility upon marginal cost; though the determination of the former by the latter is the phenomenon which most impresses us.

The explanations of this section might be amplified by a discussion of the phenomena appearing under certain more complicated conditions. An instance is the case of alternate uses, where we have as a rule to consider several costs of substitution as well as several uses and utilities in regard to one and the same object. I desire, however, to confine myself in this paper to the discussion of leading principles.

12. Even defenders of cost have said that in the case of scarcity-goods, value is determined by utility alone. At first glance this would indeed seem plausible. But what makes goods scarcity-goods? Is not a scarcity-good a good whose marginal cost of substitution is disproportionately large or infinite? And is it not merely because marginal cost of substitution is so large with these goods, that utility apparently

rules supreme in their case? This cost, therefore, is just as much an essential element of the value of these goods as their utility.

In the case of free goods, marginal cost of substitution is equal to, or below, zero, and marginal utility and value are equal to, or below, zero. That this is not a mere accident appears quite clearly whenever these goods cease to be free, *i. e.*, whenever their marginal cost of substitution goes up above zero. Let water or air become scarce, and there is eventually hardly anything man will not give for even a small quantity of them. In this instance, as elsewhere in the case of necessities, the highest utility being infinite and the demand constant, value adjusts itself so closely to marginal cost that it hardly ever deviates from it.

Suppose, next, that marginal cost of supply of an article be made uniform through a monopoly at a certain price. If, before this occurs, marginal utility has been above that price, it comes down to it at once; if marginal utility has been below the monopoly price, it tends to rise to this price, and, in the long run, stays below it only if the utility of the article nowhere attains the monopoly price. So long as this is the case, the marginal cost of substitution being beyond the upper bounds of the utility of the article, its value will never equal this cost, but will constantly tend to rise to it, ultimately equaling the highest utility of the article, but of course unable to rise beyond that. Practically, such a case rarely occurs, because monopoly prices are usually fixed so that sales can take place.

In the case of freely reproducible goods finally we have as a result of the working of the forces described under Section II, a constant tendency of value and marginal utility to equal marginal cost of substitution. This tendency is none the less potent because a nice adjustment in accordance with it is frequently prevented by disturbing factors, or by the indirect manner in which the tendency often has to exert its influence.

13. The law of costs, which holds that the value of freely reproducible goods, in the long run, adjusts itself according to their cost, has its foundation in this tendency. It holds true, not only if understood to refer to marginal cost of substitution, but also if understood to refer to cost of reproduction, or even to actual cost of production.*

The medium in which we calculate cost in this connection does not make any essential difference. We may calculate cost in goods, labor, money, pleasure, or anything else of value and positive utility, or in pain, and find the law of costs confirmed. But of course we must calculate correctly. We cannot obtain correct results, unless in summing up costs and in bringing them under one denominator, we take account of all the sacrifices actually incurred as cost, and employ true economic equivalents for them. We must, for instance, not neglect the influence of time or the differences of quality. To illustrate: Though to the skilled laborer himself his work is perhaps less painful than to the unskilled, still it costs a great deal more to procure additional supply or a substitute in the case of skilled labor than in the case of unskilled labor, and, therefore, a greater amount of economic sacrifice, pain and discomfort is represented by the expenditure of skilled labor, and involved in its (at the same time more productive) employment. Very manifestly, if, in calculating cost, we take account of one kind of cost only, where other kinds are involved at the same time, or if we neglect time and quality, we cannot but arrive at the conclusion that if we calculate cost in that manner, the law of costs does not hold true.

14. Boehm-Bawerk, the other Austrians apparently agreeing with him, says that the cost referred to in the "law of costs" in most cases is determined by utility, and by it alone. This doctrine, and the reasoning upon which it is based, seem to be open to objection. If cost is identical with the value of the productive power, and this is determined

*See Sections 9 and 10, above.

by marginal utility,* it does by no means follow that value is finally determined by utility. We can, at best, reason from value and marginal utility through cost to another value and marginal utility; but thence, without heed of the "marginal," to utility, or even to sacrifice-utility is a jump fatal to the soundness of any conclusion. Sacrifice-utilities,† by the way, look to me much more like costs than like utilities; disbursements are not receipts.

But what of the leveling of marginal utilities with marginal utilities of which Boehm-Bawerk makes so much? This leveling fulfills an important function, but it affords only a very partial explanation of the law of costs. It does not go to the root of the matter. After all the leveling of marginal utilities with each other has been done in a specific case that can be done, we still may properly inquire: What determines these marginal utilities in their totality, and thereby every one of them, and why do we not find all of them at zero? The leveling of marginal utilities with marginal utilities gives no answer. We find it in the difficulty of procuring supply which is represented by cost.

It is a balancing of utilities with costs which in the end determines the margin of either, under consideration of the urgency of human wants on one side, and of the difficulty of their satisfaction, growing out of natural or artificial conditions on the other.

This balancing of utilities with costs Boehm-Bawerk has, it seems to me, confounded, or certainly neglected in comparison, with the leveling of marginal utilities with each other. He apparently overlooks the intrinsic distinction between utility and cost as well as the great independent influence of the latter. But for cost the problems of value would hardly vex us at all.‡ Here want, there difficulty of supply; here pleasure, there pain; here gain, there sacrifice; both sides have an importance of their own, and,

* ANNALS, Vol. v, p. 199, September, 1894.

† *Ibid.*, p. 207.

‡ See Section 7, above.

to that extent, must be kept strictly apart. The one is the economic reverse of the other. The excess in favor of pleasure and gain largely determines human well-being, progress and increase. Value is determined in the effort to make these as large as possible. Human well-being itself, though apparently an independent factor in the determination of value, is, in the long run, largely a result of the same conditions and forces which determine value.

15. So far we have considered almost exclusively positive value. Value, however, often is, or becomes, negative, going down with marginal utility below zero. In all such cases we find the limit below which the negative value and marginal utility of anything cannot fall, marked by "the cost of then and there, or within fairly discountable distances of time and place, and by the means within reach, either preventing or removing, according to circumstances, a supply, including here the object under consideration, of equal detriment to human welfare, at the margin of easiest prevention or removal," or by analogy: by the marginal cost of repression. This means that negative value never grows larger in the negative direction than marginal cost of repression, or, what means the same, never falls below it, considering marginal cost of repression as negative cost. This limitation on negative value equally applies to value in general. So likewise does the rule stated for positive value under Section 11, above. By combination we obtain then the following general rule:

*Value and marginal utility of an object never rise above marginal cost of substitution and never fall below marginal cost of repression. Within these bounds they generally tend toward an equality with marginal cost of substitution; this, however, not beyond the upper bounds of the positive utility of the object in question.**

* This rule, under consideration of what is said in the note to Section 4 above, and under Section 21 below, I should prefer to frame as follows: The value of an object always corresponds to the economic efficiency of such object. Value, in amount, never rises above marginal cost of substitution, and never falls below

16. From what I have said I hope it appears clearly that cost is always a distinct and most essential factor in the determination of value. But its function, if my view is correct, is more or less different from what it is said to be by most, if not all, other defenders of its value-determining quality. Sharp distinctions must be drawn, in the way indicated in my previous remarks, between the different kinds of cost which I have mentioned. These distinctions, though most, and perhaps all, of them not new, are frequently overlooked. Cost, furthermore, does not by itself alone determine value in any case. Without utility there is no value—in the case of freely reproducible goods as little as anywhere else. He who regards cost as the sole determinant of value in the case of freely reproducible goods, assumes utility as a matter of course, just as he who regards utility as the sole determinant of value in the case of scarcity-goods, assumes cost as a matter of course; the one as much as the other erroneously. Those who represent value as determined by utility and cost in conjunction, come nearest to the truth, if I am not mistaken. But (*a*) most, if not all, of those who stand for this view of the question, except scarcity-goods. Some of them (*b*), furthermore, represent value as either generally, or at least in the case of freely reproducible goods, always determined by a meeting of utility and cost (comparison with the blades of a pair of shears). In reality (*a*) the same law applies to the whole field of valuation, and (*b*) even in the case of freely reproducible goods there is only a strong tendency of value (and marginal utility) to equal cost, but by no means always a meeting of the two. Finally, the rule given under Section 15 states a twofold limitation on value and marginal utility by, indeed two different kinds of, cost, which seems to have been overlooked in this connection.

17. As to the connection of labor with value, it is indeed marginal cost of repression. Within these bounds value tends to correspond in amount to marginal cost of substitution; this, however, not beyond the upper bounds of the positive economic capacity of the object in question.

clear that labor has much to do with the determination of value. But utility and cost fully cover the ground. Labor determines value in so far only as it constitutes either cost or utility; it may constitute either because labor has come to be used in economics to denote not activity only; but, among other conceptions, also the sacrifice involved in labor, and the advantage of command over labor. In the former sense labor constitutes the most important element of cost; in the latter it constitutes frequently the chief utility of an object. It is manifestly untrue that the labor socially necessary to produce or reproduce a good finally and completely determines its value in all cases. It is not true, not even in a single case, because such a proposition ignores altogether the important part which utility plays in the determination of value.

Those who represent value as ultimately and completely determined by labor have fallen into their error, I believe, through a confusion of the determination of value with the creation of wealth; through a tendency to exaggerate the importance of labor; through a confusion of determination and measurement, and through a mistaken notion as to the dependence of socialism on such a theory. The mistakes here involved, in connection with the fact that to the man without property most sacrifices he makes in the procuring of goods resolve themselves into labor, evidently served as the basis of, and have given a specious plausibility to, that straight and uncompromising labor theory of value which was apparently thought by Marx and others to be the very key to the position of socialism. Socialism, however, is not dependent upon this sham, and does not rely upon it except in wrong theories. If the socialists want a society in which labor (-cost) regulates all values, what necessity is there of alleging that labor completely and finally determines values everywhere, and especially in the present society? It is not difficult to refute such a proposition. But to refute it is not to refute

socialism. The socialists, therefore, had better give up this mistaken support and change their position in regard to this matter so as to demand simply a society in which labor (-cost) regulates values to a larger extent than it does in the present society. It would relieve them from defending an absolutely untenable position, and some of their adversaries from believing that they have captured the citadel of the enemy, while they have taken merely a worthless breast-work.

Even in a socialistic society, though there might be a regulation of values according to labor, there would be a complete determination of values by labor only in a limited sense. There would be something in the nature of a pooling of all the other sacrifices, all except labor, which the procuring of goods would make necessary; they would be borne by society as a whole, and thrown upon the different goods and thereby upon the consumers in proportion to the labor involved in producing or procuring them. It is evident that the influence of these other sacrifices would thereby not be abolished, but merely regulated, and concealed to superficial observation, being made to follow the determining influence of labor (-cost). There would, furthermore, not infrequently occur more or less serious deviations of value and price from the (labor-) price of the socialistic state, because, as we have seen, marginal cost of substitution, presuming even that the socialistic state should gain full control of that, holds by no means absolute sway over value and price. It would require prudent management to overcome the difficulties which would arise from this source.

As to Adam Smith, he evidently regarded labor not as the exclusive determinant of value, but merely as a superior measure of it, and even that not without qualifications. He speaks of labor indeed as of an ultimate standard of value; but a standard is a very different thing from a determinant.*

* The German word "*Bestimmgrund*" may properly be translated by "determinant," but not by "standard." The German equivalent for "standard," in its proper application in the discussion of value, and in the sense in which Adam Smith uses it in this connection, is, "*Normal mass*," or simply "*Mass*."

18. We have reached the conclusion that value and marginal utility are determined by utility and cost (of substitution). Any disturbing factors, if there are any, can be important only in the contemplation of individual cases of valuation. In the long run they merge into utility and cost. Cost of substitution, furthermore, in the long run is the same as cost of supply, and this in turn is, in the long run, the same as cost of production in the wider sense. In a general way, then, utility and cost may certainly be regarded as the great determinants of value, comprising all the elements which enter into the problem, and fully covering it; the one from the side of advantage, contentment and pleasure (not to be understood in the narrow, hedonistic sense), derived from the satisfaction of wants, the other from the side of the difficulty of the attainment of an equivalent satisfaction, and of the pain to be endured in such attainment. If more attention and space have been devoted in these pages to the discussion of the influence of cost upon value than to that of utility, it is, of course, not because I regard the latter as the less important of the two, but simply because its importance has been better demonstrated and its influence on value better explained.

19. I proceed, in this paper, upon the theory that usefulness (*Nuetzlichkeit*) and utility (*Nutzen*) are essentially synonymous. Common usage and the acknowledged authorities on language alike sanction this theory; it has the approval of so thorough an exponent of the Austrian school as Professor W. Smart,* and Boehm-Bawerk's use of the words in many places seems to confirm it. There are, however, strong indications that utility is often used by most, if not all, of the Austrians in quite a different sense from that of "capacity to subserve human weal," and I apprehend that the various meanings inconsistently attached to the word "utility" have been the source of not less serious misunderstandings than the variety of conceptions covered by the

* "Theory of Value," p. 12.

word "cost." Two meanings in particular have been attached to the word "utility," which widely differ from the conception of "capacity to subserve human weal." One is "importance;" the other "influence upon human weal." Boehm-Bawerk himself speaks of marginal utility as an "importance;" and if marginal utility denotes importance, utility denotes importance also.

Utility in this sense is always equal to marginal utility in the corresponding sense.* If Boehm-Bawerk uses utility, in contradistinction to usefulness, to denote importance, then, of course, he cannot be criticised for jumping from marginal utility to utility. But his position regarding cost still remains wrong. Cost in this case is, in common with usefulness, always a determinant of value through utility, and it is, therefore, wrongly put in opposition to utility.

Besides, two further objections have to be raised if utility is used in the sense of importance. The first is that utility is used in an altogether unusual sense, and, that, without a special declaration to that effect, a distinction is introduced into the use of two common words (utility and usefulness) which is neither in accordance with common usage nor sanctioned by the authorities on language. The second is that utility, in the sense of "importance," is synonymous with (subjective) value; so that the discovery that value depends on utility amounts to nothing, and constitutes even a step backward from the valuable discovery that value is determined at the margin. All the purposes which marginal utility, in the sense of "importance of the marginal increment," serves may just as well be attained by the conception of marginal value. There is no need in the theory of value for two conceptions, both denoting importance ("Bedeutung" or "*Wichtigkeit*") of goods.

*Some might think that marginal utility, if utility is used in the sense of "capacity to subserve human weal," would be as large as this utility is in general; for is not the marginal increment just as capable "to subserve human weal" as any other increment? This objection is obviated if we regard marginal utility as *that* "capacity to subserve human weal" to which the marginal increment is limited as such marginal increment.

The employment of utility in the sense of "influence upon human weal" largely obviates the last two objections urged against its employment in the sense of "importance." The allegation that value, *i. e.*, "importance for human weal," depends on utility, *i. e.*, "influence on human weal," would seem to constitute a real logical step, though a very short one. The two conceptions are not synonymous; still, there is so little difference between them that the second one is not absolutely necessary as a regular part of the theory of value. From the standpoint of language, not very much objection can be raised against the use of utility in the sense of "influence on human weal;" such use is not extraordinary, though, as a rule, confined so as to denote beneficial influence on human weal, or positive efficiency in subserving it.

But what I have said about utility, in the sense of "importance," regarding its relation to the determination of value, to marginal utility and to cost, also holds true with utility in the sense of "influence upon human weal." I have searched in vain for a meaning of the word utility which would justify its being set up, as against cost, as the exclusive, or approximately exclusive, final determinant of value, even in a single case.

20. Perhaps it would be desirable to eliminate, in accordance with Professor Smart's suggestion,* the word utility altogether from the discussion of the theory of value, and to use usefulness exclusively. Until some agreement is reached, I shall use utility as synonymous with usefulness, and both in the sense of "capacity to subserve human weal." Personally, I should prefer to employ usefulness, if the word is retained at all in this connection, to denote "influence on human weal," and to express the conception of "capacity to subserve human weal" by "capacity for usefulness" (*Nutzfähigkeit*). Then value, being equal to marginal value, would be fully determined by usefulness,

* "Theory of Value," p. 12.

which, in turn, would be equal to marginal usefulness, and would be determined (like marginal usefulness) by "capacity for usefulness" and "cost" in conjunction. Utility, if its use were retained in this case, I should prefer to have used as a synonym of usefulness.

Best of all it would seem to me to use neither utility nor usefulness in the discussion at hand. They cannot be used in their really proper sense; every teacher of elementary economics now finds it necessary to explain to his pupils that the most useless and vicious object may be an exceedingly useful thing from the standpoint of economics. Why continue this distortion of language, if it can be avoided? It seems to me that the expressions "economic efficiency" (*Wirtschaftliche Wirksamkeit*), and "economic capacity" (*Wirkungsfähigkeit*), would answer every purpose. All that would have to be explained is that by "economic" we refer to that which pertains to the satisfaction of human wants, regardless of the effect such satisfaction has on human well-being.* It is furthermore manifest that in the course of economic discussion the proposed terms often might be used without the qualifying "economic;" especially where "marginal" is added. The proposed terms would have the further advantage that they would lend themselves as well to the discussion of negative value as to that of positive value; this cannot be said of utility and usefulness.

21. A full determination of value by the conceptions of utility and cost does not exclude equally full determinations of value by other conceptions, and the importance of the theory of utility and cost must not be overestimated in this direction. A triangle is determined in several ways, and the same chemical compound as a rule may be formed or dissolved by several methods. So, there is no doubt, a determination of value may be made in other ways than that

*The adoption of the proposed terms would also counteract the economic misuse of "human welfare" and "well-being" as identical with the satisfaction of human desires. I have given way to that in this paper because I wished to follow the phraseology and definitions of others.

discussed above. For instance, supply and demand, marginal pleasure and pain, wants and aversions, benefits and sacrifices, and marginal value suggest themselves as conceptions by which other—possibly in many ways not as expedient, but in many ways better—solutions of the problem have been or might be arrived at, even without any mention of utility and cost at all. For we must be conscious of the fact that utility and cost are by no means elementary factors. The elements contained in them may, therefore, easily be comprised in other conceptions, differing from utility and cost, not only in name, but also more or less in individual content. Of course any correct theory operating with such other conceptions, would, if the theory here presented is right, confirm and support it. This, I believe, is the case with the present demand-and-supply theory, if rightly understood.

22. It is because utility and cost are not elementary factors that I do not call them final determinants of value. Though I objected, under Section 3, above, to marginal utility only as a final determinant, it must not be inferred that I would approve of utility as such. All I intended to say was this: That marginal utility, being determined in part by cost, could not be set up as against cost as the final determinant of value, not even in the limited sense in which the expression has come to be used in the controversy over the final determination of value. Nothing that is not really, at least to our best knowledge, a final element, ought to be distinguished by this adjective. We have found such elements in mathematics and logic, and in a more limited sense in physics and chemistry; in economics, strictly speaking, we have not found them. It may, however, be said that economics is a science of the third or fourth grade, not aiming to trace its conceptions to absolutely elementary foundations, but operating with the complex conceptions of the fundamental sciences (mathematics and logic—physics and chemistry—physiology, biology, psychology, etc.), as its elementary ones. From this standpoint possibly utility and cost, and

certainly pleasure and pain, might be regarded as final or ultimate in economics. It is in this sense, it would seem, that these adjectives have been frequently employed in the controversy over the final determination of value, while on many other occasions in that controversy they have been used in a relative way merely:—referring to utility, or marginal utility, as final determinants only in comparison with other determinants (*i. e.*, labor, cost, etc.), and *vice versa*.

The really final determinants of value, if there are any, and their relations to value, are beyond our vision, and plain and intelligible to an all-comprehensive mind only. Nevertheless it is a task not only of theoretical interest, but also of eminently practical importance, to penetrate further and further into the maze of relations before us, and to gain all possible clearness about them.

CARL STROEVER.

Chicago.